

Level 2 Cambridge Technical in IT

Unit 2: Essentials of cyber security

Sample assessment material

Time: 1 hour

This test is a computer based test and will be completed using Surpass on OCR Secure Assess portal.

This sample assessment material illustrates the styles and types of questions that make up this test, along with its associated mark scheme.

A practice test will be available on the OCR Secure Assess portal.

There will not be a paper test available for this qualification.

First name											
Last name											
Centre number							Candidate number				

INFORMATION FOR CANDIDATES

- The total mark for this paper is **45**.
- The marks for each question are shown in brackets [].

Answer **all** the questions.

1a. Identify **one** possible target of a cyber security attack.

.....[1]

1b. Identify **two** purposes of cyber security.

1.....

2.....

[2]

1c. Some of the data stored in an accounts spreadsheet has been deliberately changed.

Identify the type of cyber security incident that has occurred.

.....[1]

1d. Many organisations use the cloud to store files and folders.

Identify **one** reason why files and folders stored in the cloud should be kept secure.

.....

.....[1]

2a A delivery company holds details of its customers in a database. The company has recently been the target of a cyber-attack on its customer database.

During the attack, some of the data held in the customer database was deliberately removed. Identify the type of cyber-attack that occurred.

.....[1]

2b. Describe **two** impacts of this cyber-attack on the delivery company.

1.....

.....

.....

2.....

.....

[4]

2c. In a further attack, some of the customers of the delivery company have been sent an email asking them to click a link to view delivery details of an order.

(i) Which type of cyber attacker would use this method?

.....

[1]

(ii) Identify and describe the type of threat that has occurred during this cyber-attack.

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[3]

2d. Legislation could be used to prosecute these cyber attackers. Identify one act of legislation that could be used to prosecute these cyber attackers.

..... [1]

2e. Following the cyber-attacks, it has been recommended that the delivery company review its organisational policy on access management.

Describe **two** ways in which access management could be used to increase the safety of data held in the customer database.

1.....

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2.....

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[4]

3a Progress Pets is an online shop that is run from the owner's home. The broadband connection is provided wirelessly through a router. The router provides the broadband access for the family and does not require a password to join.

Orders from the online shop are placed via email with the order form as an attachment. The order form includes the customer contact and payment details as well as details of the goods they wish to order.

The website could be used as a platform by cyber attackers.

Describe the following types of cyber attacker and for each provide an example of how they could exploit the website.

Phisher.....
.....
.....

Example.....
.....

Scammer.....
.....
.....

Example.....
.....

[6]

3b. Data theft is one type of cyber security incident that might affect Progress Pets

Identify **two** other types of cyber security incidents that might affect it.

1
.....

2.....

[2]

4a(i). To increase the level of cyber security and reduce vulnerabilities, different measures can be taken by Progress Pets.

Identify **one** possible vulnerability of the Progress Pets website.

.....[1]

4a(ii). Describe how using a password to access the wireless router will increase the level of cyber security for Progress Pets.

.....
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.....
.....

[2]

4b(i). Identify **two other** logical protection measures which could be implemented and explain how these could be used by the owner of Progress Pets.

1.....
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2.....
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[4]

4b(ii). Identify **one** physical protection measure that could be implemented and explain how this could be used by the owner of Progress Pets.

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.....
.....

[2]

Sample Assessment Material

L2 CAMBRIDGE TECHNICALS IN IT

Unit 2 Essentials of cyber security

MARK SCHEME

Duration: 1 hour

MAXIMUM MARK 45

SPECIMEN

Version: 1 Date: August 2016

This document consists of 6 pages

Question		Answer	Marks	Guidance
1	a	<ul style="list-style-type: none"> • Individual (1) • Data / information (1) • Equipment (1) • Organisation (1) 	1	One from list Points marking approach
	b	<ul style="list-style-type: none"> • To protect information / data (1) • To keep information / data confidential (1) • To maintain the integrity of information / data (1) • To maintain the availability of information / data (1) 	2	Two from list Points marking approach
	c	<ul style="list-style-type: none"> • Data modification 	1	Correct answer only
	d	<ul style="list-style-type: none"> • To prevent them from being accessed by unauthorised users. (1) • Any other valid suggestion 	1	One from list Points marking approach
2	a	<ul style="list-style-type: none"> • Data destruction (1) • Data theft (1) 	1	One from list Points marking approach
	b	<ul style="list-style-type: none"> • Loss of reputation and trust from customers (1) who feel the company cannot be trusted with their personal details (1) • Customer decrease (1) as customers begin to use alternative companies that have good security 	4	Two from list Points marking approach

Question			Answer	Marks	Guidance
			measures in place (1) <ul style="list-style-type: none"> • May have to pay compensation (1) to customers whose details have been removed/ affected (1) • Any other valid suggestion 		
	c	i	<ul style="list-style-type: none"> • Phisher (1) 	1	Correct answer only
	c	ii	<ul style="list-style-type: none"> • Fake / hoax emails (1st) One from: <ul style="list-style-type: none"> • The link in the email can link to a fake website (1) that contains malware / virus / (1) • Customers can be asked to reveal private / personal details (1) that can then be used for identity theft (1) • Any other valid suggestion 	3	1 st mark for type of attack, 2 marks for description. To be awarded the description marks, the type of attack must be correct Points marking approach
	d		<ul style="list-style-type: none"> • Computer Misuse Act (1) 	1	Correct answer only
	e		<ul style="list-style-type: none"> • User/names (1) could be used to determine the level of access to the database (1) • Could be used to determine the actions that can be carried out on the database (1) e.g. read only/write/amend (1) • Audit trails (1) could show who accesses the database/what actions were carried out (1) 	4	Two from list Points marking approach
3	a		Phisher: <ul style="list-style-type: none"> • Someone who pretends to be a business / organisation/person (1) to try to get personal 	6	Max two for each description and one for each appropriate example Points marking approach

Question			Answer	Marks	Guidance
			<p>information from someone (1)</p> <ul style="list-style-type: none"> • Example: Pretends to be from the business asking for clarification of payment details for an order (1) • Any other valid suggestion <p>Scammer:</p> <ul style="list-style-type: none"> • Someone who sets up a fraudulent website /business (1) that may be very similar to the real website business (1) • Example: Could copy the website but have a slightly different web address, giving contact details of the fake business (1) • Any other valid suggestion 		
	b		<ul style="list-style-type: none"> • Data destruction (1) • Data manipulation (1) • Malware (1) • Social engineering/accept examples (1) • Unauthorised access (1) 	2	Two from list Points marking approach
4	a	i	<ul style="list-style-type: none"> • Hacking (1) • DoS (1) • Virus (1) 	1	One from list Points marking approach
	a	ii	<ul style="list-style-type: none"> • When combined with user name (1) the password and user name need to be correct (1) • People who do not live at the house / passers-by (1) will not be able to access the connection (1) • Any other valid suggestion 	2	One from list Points marking approach

Question		Answer	Marks	Guidance
	b i	<ul style="list-style-type: none"> • Anti-virus software (1st) to scan all incoming emails/ attachment and move any suspicious files (1) • Encryption (1st) to ensure that all information and data held on the computer system is kept secure and if intercepted cannot be understood (1) • Firewall (1st) to control the data that can/cannot enter the system and protect it from threats and attacks (1) • Secure backups of data (1st) should be carried out regularly with the backup stored away from the system in a safe place (1) • Any other valid suggestion 	4	Two from list 1 st mark for identification of method, 2 nd mark for explanation Methods must be relevant to context.
	b ii	<ul style="list-style-type: none"> • Locks on doors (1st) to keep computer equipment used for Progress Pets secure (1) • Device locks (1st) to ensure that no-one can use a flash drive/memory stick etc. that may contain a virus (1) • Any other valid suggestion 	2	One from list 1 st mark for identification of method, 2 nd mark for explanation Method must be relevant to context.
5		Indicative content <ul style="list-style-type: none"> • Personal data is held on the order form, so identity theft may occur • Payment details can lead to theft of money if card details are provided • Customers may not use the business again as they have no trust in the security • Identity theft can lead to, for example, debts being run up passports being issued in error identity being used for criminal activity etc. • Credit/debit cards/bank accounts etc. may need to be 	9	Levels of response marking approach 7-9 marks Learner has shown a detailed level of understanding by discussing the impacts on the customer(s) of Progress Pets. More than one impact is discussed with the consequence(s) clearly detailed. Relevant and appropriate examples are provided. Specialist terms will be used correctly and appropriately. 4-6 marks Learner has shown a good level of understanding by explaining the impacts on the customer(s) of Progress Pets. Explanations

Question	Answer	Marks	Guidance
	<p>changed, this can take time and cause financial upset /inconvenience</p> <ul style="list-style-type: none"> • Passwords/user names on other websites may need to be changed, this can take time and cause distress/ inconvenience • Customers could sue the owner of the online shop for distress and inconvenience caused • Any other valid suggestion 		<p>may focus on the impact(s) or consequence(s) with limited depth in the expansion(s). Some relevant examples are provided although these may not always be appropriate. Specialist terms will be used appropriately and for the most part correctly.</p> <p>1-3 marks Learner has identified points relevant to the impacts on customers. This may take the form of a bulleted list. Examples, if used, may lack relevance. There will be little, if any, use of specialist terms. Answers may not be relevant to the customers of Progress Pets.</p> <p>0 marks Nothing worthy of credit.</p>